

REMARKS

The Office Action has allowed claims 1-11.

Claim Rejections - 35 USC § 112

The Office Action rejected claims 12-25 and 39-90 under 35 USC 112 for clarity problems. Each clarity objection that was specified in the Office Action has been amended in this response to make the claims allowably clear. Also, since each clarity objection was preceded by "recitations such as", similar phraseology in other claims not specifically mentioned in the Office Action has also been amended for clarity. The clarity amendments make allowable additional claims 53-60 and 67-73, which are not rejected on any other ground. All the other pending claims in the application are believed to be allowably clear, but for any question on this, the examiner is invited to call applicant's attorney.

Claim Rejections - 35 USC § 102

The office action rejected Claims 39-41 and 44-52 under 35 U.S.C. 102(b) as being anticipated by Osten. Claim 39 requires that both a sash shoe and a sash support element be formed of a metal extrusion. The Osten patent suggests that sash support arms and sash shoes be formed of metal, but Osten also proposes configurations for the sash support arm and the shoe so that these elements could not be formed by extrusions. For example, Osten's sash support art 50 has a blind hole or socket of 54 to receive a spring 56, and this is transverse to the sash support arm profile so that the part could not be extruded.

Claim 39 also requires that a configuration of the sash shoe extend integrally from a hook shaped upper region engaging a counterbalance to a platform shaped lower region supporting a sash. In contrast to this, the Osten patent suggests a two-piece sash shoe. One-piece is formed as a strip 84 with a hook on each end, and another piece 92 is pivotally connected to a slider that moves up and down in a window jam. The lower piece 92 provides the platform 100 to engage sash support arm 50, but the two-part construction taught by Osten does not allow fabrication by the claimed extrusion, and does not extend integrally from a hook shaped upper region to a platform shaped lower region.

The idea of extruding a sash support arm and a sash shoe in the claimed configurations arises only from applicants' teaching. Any person of ordinary skill following Osten would not think of an extrusion, because the Osten configurations are not extrudable. There is not even any suggestion in Osten for the sash shoe to be formed as an integral unit from a hook shaped upper region to a platform shaped lower region. For these reasons the rejection of claim 39 as anticipated by Osten can be withdrawn. This can result in an allowance of Claims 39-52.

The rejection of claims 74-90 as anticipated by Trout can also be withdrawn for several reasons. What the office action characterizes as "support arms 162" are called "locking elements" by Trout who explains their function in the paragraph beginning on line 21 of column 6. Arms 162 pivot on shoes to bite locking edges 180 into a jamb. Claim 74 is amended to clarify that the applicants' support arms are pivotally mounted on a sash rather than on sash shoes as Trout suggests. Instead of pivotally locking the Trout shoe to a jamb, the claimed support arms extend from the sash to the shoes to transfer sash weight to the shoes, and do not receive sash weight from sliding arms 70, as suggested by Trout.

The Trout arrangement deliberately creates moment arms tending to turn the shoes around horizontal axes, which is also contrary to the requirement of claim 74. Since the Trout teaching cannot meet several of the claimed requirements for support arms, the rejection on Trout can be withdrawn, resulting in allowance of claims 74-79.

Claim 80 is amended to define the support arms as pivotally mounted on the sash and moved to hang downwardly in response to lifting the sash. The claimed sash support arms also extend from the sash styles to the counterbalance shoes in a way that minimizes moment arms tending to turn shoes.

Trout does not suggest support arms pivotally mounted on sash styles to hang downwardly in response to lifting a sash upward to remove its weight from sash shoes. Trout also does not suggest sash support arms pivotally extending to counterbalance shoes for transferring the weight of the sash to the shoes. The Trout sash support arms 70 are slidably housed in cylindrical sockets mounted in the sash styles; they are not free to pivot or to hang downward.

Since there is no suggestion in Trout for the claimed requirements of the sash support arms as defined in claims 80, the anticipation rejection under Trout can be withdrawn. This can result in an allowance of claims 80-85.

With respect to claim 86, the arms 162 of Trout, although movable between sash supporting and sash uplifted positions, do not hang downward from sash stiles in the sash uplifted position, as claimed, and do not allow lateral movement of the sash between shoes, as required by claim 86. The Trout arms 162 are also made subject to moment arms that turn them about horizontal axes, which is prohibited by the claimed engagement between sash arms and shoes. This allows withdrawal of the rejection of claim 86 and allowance of claims 86-90.

Claim Rejections - 35 USC § 103

The rejection of claims 12-15, 19, 20 and 22-25 under 35 USC 103(a) on Osten in view of Haas does not address the requirements of claim 12 that the shoes be formed as extrusions and that the extrusion configurations extend integrally between upper and lower regions. Both the Osten and Haas shoes are formed of several parts, rather than being integral extrusions as claimed. The shoes of both references require pivoting locking elements that bite into a jamb, and this alone precludes shoes being integral between a hook top and a platform bottom. From platform to hook requires at least two parts for Osten and several more parts for Haas. The references also fail to suggest extrusion of any of these parts; moreover, the part configurations proposed by the references teach away from fabrication by extrusion.

An ordinary worker following Osten and Haas would not make a sash support platform integral with a shoe, for this would not provide the required biting lock. Nor would such a worker try an integral extrusion of a shoe that requires several parts. For these reasons the rejection of claims 12-15, 19, 20 and 22-25 can be withdrawn, resulting in allowance of these claims.

In rejecting claims 16 and 17 Johnson is cited in addition to Osten and Haas, as suggesting jamb projections that can engage with a lock on a sash shoe. Johnson actually discloses an opening or slot 21, as explained in the paragraph beginning at line 4 of Column 3.

Johnson's latch engages with opening or slot 21, but this does not meet applicants' teaching of the claimed projection. Pursuant to this, withdrawing the rejection of claims 12, 16, and 17 can make claims 12-25 allowable.

The rejection of claims 61, 64 and 65 under 35 USC 103(a) on Osten in view of Johnson omits features showing that distinctions do exist between claim 61 and these references. For example, the Johnson hooks do not hang dependently downward as claimed because they are always biased outward by compression springs 22. This ensures that the hooks will latch when an upper sash is lowered far enough for the latch to engage a slot or opening in the jamb. As explained in the Johnson paragraph beginning at line 24 of Column 3, when a user wants to raise the sash above the latch position, the latches 17 are manually manipulated to be unlatched from slots 21. This is possible because latches 17 extend below the bottom of an upper sash where they are accessible to a user.

Another difference between the claims and the references that is not mentioned in the office action is that the claimed arrangement makes a sash hook engage with a lance in the jamb, and neither reference suggests any such lance. Johnson's slot or opening is not the claimed lance.

Although the Johnson hooks move slightly between latched and unlatched positions, they are always biased toward latched, and they do not hang dependently downward in an unlatched position, as claimed. The only thing that keeps them in a latched position is absence of a slot to drop into. The Johnson latches will latch into slots 21 whenever they are at the proper level to do so, whereas the claimed latch hooks when arranged in the latched positions do not hook under lances and do allow the sash to move up and down independently of the lances. This is defined in paragraph c of claim 61. Neither reference suggests any way of retaining hooks in latched positions clear of any engagement with jambs. Moreover, neither reference suggests lances in a jamb or any way of holding latching hooks clear of jamb lances.

For all these reasons the rejection of claims 61, 64, and 65 can be withdrawn, resulting in allowance of claims 61-66.

Conclusion

Applicant believes the claims, as amended, are patentable over the prior art, and that this case is now in condition for allowance of all claims therein. Such action is thus respectfully requested. If the Examiner disagrees, or believes for any other reason that direct contact with Applicants' attorney would advance the prosecution of the case to finality, he is invited to telephone the undersigned at the number given below.

"Recognizing that Internet communications are not secured, I hereby authorize the PTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file."

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